

NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory

Friday, November 10, 2000

Vol. 25, No. 45



FROM THE
DIRECTOR'S
OFFICE

Pat Grant

Forensics fundamental at Laboratory center

The Livermore Forensic Science Center (FSC) is not a stereotypical forensic laboratory. For example, the FSC does not conduct some analyses, such as blood-alcohol determinations or conventional fingerprinting, that are routinely performed by more mainstream labs.

Similarly, while the FSC analyzes blood and body fluids for toxins or the presence of any unusual chemical compounds, the lab normally does not perform conventional serology.

Since 1991, however, the FSC has focused a comprehensive range of analytic technologies on issues related to nonproliferation, intelligence and counterterrorism. The center's multidisciplinary staff also applies expertise in chemistry, nuclear science, physics, bioscience and other technical areas to provide forensic support to law enforcement and to verify compliance with international treaties and agreements. As the FSC deputy and a team member for various FSC activities, I'd like to update you on the work that we do, as well as on its application to present and future threats.

Forensic field techniques

One focus of the FSC is the development of new instrumentation and forensic protocols, particularly for field collections and on-site sample analyses. For example, during the Desert Storm campaign, our scientists developed a small ion-store/time-of-flight mass spectrometer, capable of real-time air analyses from high-speed aircraft. It is currently being applied to other remote sensing problems. Similarly, we developed a portable gas chromatograph-mass spectrometer, with sensitivity and resolution equivalent to laboratory instruments weighing many hundreds of pounds, as a completely self-contained field platform. It weighs only 55 pounds, and we deployed it, along with FSC-refined sample-preparation microextraction techniques, for counterterrorism activities conducted by the Los Angeles County Sheriff's Department at the Democratic National Convention in August.

Another recent FSC development is the miniaturization of thin-layer chromatography, a valuable chemical separation technique with origins in the 1930s. We modernized it for 21st-century applications by evolving multispectral visualization techniques for various analytes and by developing computerized data reduction for both qualitative and quantitative results. The military is presently using this technology for the

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Kuckuck ready to retire in January

By Lynda Seaver

NEWSLINE STAFF WRITER

Bob Kuckuck, the Lab's deputy director for Operations since 1994 and a long-time weapons experimentalist, announced he will retire from the Laboratory, effective Jan. 31, 2001.

"I don't really think of it as retiring," said Kuckuck, "just doing something different. I still have dreams and plans to accomplish."

"This is such a dynamic place, especially the quality of people who work here and the work we do. I will miss it a lot."

Kuckuck's career has spanned more than 37



Bob Kuckuck

years at the Laboratory and at the University of California, in a range of positions from experimental scientist to associate director for Nuclear Test-Experimental Science, to deputy director.

In his role as deputy director for Operations, Kuckuck holds management responsibility for all day-to-day operations at the Laboratory. Additionally, he has administrative responsibility for the Laboratory's Controller, Human Resources, Business Operations, Assurances, Contract Management,

See **KUCKUCK**, page 8

History of nuclear tests will live on through new Nevada institute

As the Nevada Test Site prepares to mark the 50th anniversary of nuclear testing in the desert early next year, the fledgling Nevada Atomic Testing History Institute is seeking to "preserve and foster public accessibility to the history of the site" through a museum, library and educational programs.

In a recent memo to Lab employees, Director Bruce Tarter briefly described the institute and encouraged past and present employees to join the Nevada Test Site (NTS) Historical Foundation, which is assisting in the operation and promotion of the institute.

The NTS Historical Foundation was established in April 1998 as a non-profit corporation and is a joint effort of the foundation, the Desert Research Institute and DOE's Nevada Operations Office. It is headed by Chairman of the Board of Trustees Troy Wade, a former Lab employee, and Bruce Church, foundation president.

"The foundation is the vehicle for bringing together documents and memorabilia that tell the story of nuclear testing into an educational resource," says Steve Wofford of LLNL's Archive Group, designated by Tarter to serve as the Lab focal point for the project. "The raw material for this project will come from the people who worked in the testing programs at Livermore and other national labs."



NEWSLINE FILE PHOTO

The story of the Sedan Crater, part of the Plowshare Program, will be one aspect of the new Nevada institute.

With resources provided by the foundation, the Nevada Atomic Testing History Institute will preserve, consolidate and make accessible to the public histori-

See **NEVADA**, page 7

York, Drell win Fermi Awards for life's work

President Clinton on Thursday named Lab Director Emeritus Herbert York, Sidney Drell and Sheldon Datz as winners of the Enrico Fermi Award, given for a lifetime of achievement in the field of nuclear energy.

York, the Lab's first director, will receive the award for his efforts for nuclear deterrence and arms control agreements. Drell, formerly of the Stanford Linear Accelerator Center, will receive

the award for his contributions to arms control and national security and to particle physics. Datz, a physicist and senior fellow at Oak Ridge National Laboratory, will receive the award for his pioneering research in atomic and chemical physics.

"These scientists have made important contributions in the fields of chemistry and physics,"

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Cooking up better burgers

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The thrills of downhill

— Page 5



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Friday
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Columbia University history professor and author Eric Foner will inaugurate a **facilitated diversity dialogue series** at 10:30 a.m. today in the Bldg. 123 auditorium with a talk entitled, "Who Is an American? Diversity and Freedom in American History." All employees are invited to attend the presentation. For questions about the facilitated dialogue that will follow Foner's talk, contact Michele Cardenas, 3-2796, or Lorie Valle, 2-1770.

Monday
13

The **Energy and Environment Directorate** is beginning a series of informal presentations on the scope and vision of the directorate's programmatic and disciplinary activities. The first session, on "Applied Energy Technologies (AET) and Health and Ecological Assessment (HEA)," will be held from 1:30 to 3 p.m. today in the Bldg. 123 auditorium. All Lab employees are welcome to attend. Future topics include Geophysics and Global Security Division, Fission Energy and Systems Safety Program, Yucca Mountain Program, Geosciences and Environmental Technology, Atmospheric Sciences Division and ARAC programs and tour. Contact Mark Strauch, 2-1469.

Tuesday
14

A representative from **Fidelity Investments** will be on-site to meet with employees on Tuesday, Wednesday and Nov. 29. Fidelity Investments are available to UC's 403(b) participants in addition to the UC-managed investment funds. Appointments are required and may be scheduled by calling the Fidelity Central Reservation System at 1-800-642-7131. When calling this number, be sure to specify you work at Lawrence Livermore National Laboratory.

Thursday
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The annual **Signal and Imaging Sciences Workshop** returns to the Lab Thursday and Friday in the Bldg. 123 auditorium. Simon Haykin of McMaster University in Ontario, Canada, will present "Adaptive Systems for Signal Processing" on Thursday. Christian Pichot, research director of the French national Center for Scientific Research, will present "Subsurface Tomography Using Ultra-wide Band Systems" on Friday. Contact: Liz Kurzeika, 3-5864.



LAB TV

BROADCAST
SCHEDULE

The DDLS talk by Stephen Schneider of Stanford's Department of Biological Sciences, on "**The Global Warming Debate: Separating the Scientific From the Political,**" will be rebroadcast on Lab Channel 2 Thursday, Nov. 16, at 10 a.m., noon, 2, 4 and 8 p.m., and Friday, Nov. 17, at 4 a.m.

Flu vaccine clinics set for Lab, Site 300

Due to production delays by the manufacturer, the availability of flu vaccine has been limited nationwide. To date, Health Services has received only a portion of this year's order of vaccine.

Though Health Services expects to receive its entire order, it is not known when the remainder of the order will arrive. At this point, flu clinics are scheduled as follows. Please bring \$5 in exact change:

Walk-in immunizations at Health Services, Bldg. 663, will be limited to high-risk employees and personnel planning work-related foreign travel. Drop-in hours will be from 1 to 4 p.m. Monday through Friday. High-risk individuals are:

- Persons aged 65 years or older.
 - Persons with chronic medical conditions such as cardiovascular or pulmonary disease, metabolic disease (including diabetes), renal dysfunction, and immuno-suppression (includes those caused by medication).
 - Pregnant women in their second or third trimester. (Contact your personal physician to discuss in advance.)
 - Employees on Lab foreign travel. These employees must be:
 - Fifty years or older.
 - Traveling between now and April 2001.
 - A traveler of any age to the Southern Hemisphere, Russia or the Federated States of the Former USSR, to Eastern Block Countries (Poland, Hungary, Slovakia, Czech Republic, Romania); or to China, North or South Korea.
- Immunizations at work-site clinics will be open to all employees. Healthy, high-risk

and foreign-travel individuals may receive vaccines at any of the regularly scheduled flu clinics. Work-site clinics begin on Tuesday, Nov. 14.

Clinics will run through November, or until all the vaccine is administered. All flu clinics will be limited to the allotted time frames and will be available on a first-come, first-served basis.

Site 300

Flu shots will be available 8:30-11 a.m. through Nov. 13 for high-risk/foreign-travel employees. Drop-in visits for all other Site 300 employees will begin Nov. 14, 8:30-11 a.m.

For questions regarding the flu vaccine clinics, call Health Services, 4-4516. Employees who normally receive their flu shot through Health Services and are concerned about the current limited supply may want to consider contacting their health provider regarding vaccine availability.

A consent form must be filled out prior to receiving a flu shot. For a copy of the form, see the Web at <http://www.llnl.gov/healthserv/>.

Scheduled work site clinics

Tuesday, Nov. 14	Bldg. 132S, room 1193	9:30-11 a.m.
	Bldg. 253, Bull Pen	1:30-3 p.m.
Wednesday, Nov. 15	Bldg. 543 lobby	9:30-11 a.m.
	Bldg. 332, Alpha room	1:30-3 p.m.
Thursday, Nov. 16	Bldg. 111, Morning Light room	9:30-11 a.m.
	Bldg. 311, room 1223	1:30-3 p.m.
Friday, Nov. 17	Trailer 3925, Redwood room	9:30-11 a.m.
	Bldg. 511, Diamond room	1:30-3 p.m.
Tuesday, Nov. 21	Bldg. 551E lobby	9:30-11 a.m.
	Bldg. 361, room 1155	1:30-3 p.m.
Wednesday, Nov. 22	Bldg. 131, room 2547	9:30-11 a.m.
	Bldg. 111, Morning Light	1:30-3 p.m.
Tuesday, Nov. 28	Bldg. 314 (room TBD)	9:30-11 a.m.
	Bldg. 211, room 137	1:30-3 p.m.

IN MEMORIAM

Patricia Horn

Patricia A. Horn, a Laboratory retiree, died Oct. 30. She was 63.

Horn, a native of Oakland, worked as a secretary for 16 years in the Chemistry & Materials Science Directorate, including an assignment in Analytical Chemistry. She retired in 1990 and moved to Wilseyville.

Horn was a regular donor to the blood bank and she enjoyed fishing.

She is survived by two daughters, Silena and Karna; a granddaughter; her mother, and her husband Bob Richardson.

Donations in her memory may be made to Hospice of Amador, P.O. Box 595, Jackson, CA 95642.

James Schweiger

James S. Schweiger, a nuclear chemist at the Lab for 28 years, died Oct. 27. He was 68.

Schweiger served in the Army before joining the Lab in 1963. He retired in 1991. He lived in Livermore for 37 years and was the owner of Triple S Lawn Service.

He was a member of Livermore-Pleasanton Elks, Veterans of Foreign Wars and Sons in Retirement.

Survivors include his wife Bettie; daughters Carol, Diane and Judy; sons Jim, Steve, Brian and John; 19 grandchildren and three great grandchildren.

Contributions in his memory may be sent to LEGACY, c/o St. Michael's Church, 458 Maple St., Livermore, 94550.

Newsline

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Managing Editor: Lynda Seaver, 3-3103

Staff Writers: Don Johnston, 3-4902
Elizabeth Campos Rajs, 4-5806

Designer: Julie Korhummel, 2-9709

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Public Affairs Office, L-797 (Trailer 6527), LLNL, P.O. Box 808, Livermore, CA 94551-0808
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on how to get help with
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http://www-r.llnl.gov/es_and_h/safety_help/

You can also access this page from the Grapevine
or from the Grapevine Index.



AROUND THE LAB

Cooking to reduce harmful compounds in hamburgers

Frying hamburgers at a pan temperature of 160 degrees centigrade and turning them every minute brings them to the recommended internal temperature for killing bacteria sooner and reduces the formation of potential human cancer-causing compounds, according to a study in the November issue of the *Journal of the National Cancer Institute*.

Ground beef must be brought to a sufficiently high internal temperature to kill bacteria that might cause illness. However, cooking, especially at high pan temperatures, can lead to formation of compounds that may be carcinogenic.

According to a team of researchers from the Lab's Biology & Biotechnology Research Program, cooking at a pan temperature of 160 degrees centigrade and turning the hamburger patties every minute speeds the cooking process and reduces the formation of harmful compounds.

The researchers, which included Cynthia Salmon, Mark Knize, Frances Panteleakos, Rebekah Wu, David Nelson and James Felton, inoculated each 100-gram ground beef patty (con-

taining 2 percent fat) with approximately 2 billion bacteria. They used *Escherichia coli* K12, a less dangerous strain than the highly pathogenic *E. coli* O157:H7. These contaminated patties were then cooked in a nonstick stainless steel pan that was preheated on a gas range to various surface temperatures.

The pan temperature and the temperature at five points within the meat patty were determined by thermocouples; temperatures and the cooking time were recorded at 20-second intervals. Single patties were brought to internal temperatures ranging from 35-70 degrees centigrade, while being turned every minute. Other patties were turned just once, after five minutes of cooking. The cooked patties were then analyzed for both bacterial content and forma-



tion of heterocyclic amine carcinogens.

The patties were essentially bacteria free when cooked to internal temperatures of 70 degrees centigrade, regardless of pan temperature and frequency of turning. However, pan temperature and turning frequency had a decided effect on the formation of carcinogens. Patties turned every minute had shorter cooking times and contained lower amounts of carcinogens compared with patties turned just once, regardless of pan temperature. The decrease in total carcinogen formation due to flipping every minute compared with flipping just once ranged from 75 percent at a pan temperature of 250 degrees centigrade to 95 percent at 180 degrees centigrade.

The researchers conclude that use of their cooking method could ensure a microbiologically safe food product and might lower human cancer incidence due to dietary carcinogens. Finally, they note that further studies are needed to determine the effectiveness of this method for reducing carcinogens and microorganisms in other meat products that differ in geometry or fat content.

Metal detector donated to Yreka courthouse

Thanks to the Laboratory's Safeguards and Security Department, the Siskiyou County Courthouse in Yreka is more secure.

The Laboratory donated an excess metal detector, recently taken out of service as part of a security upgrade in the Plutonium Facility, to the Siskiyou County Sheriff's Department after John Gonsalves, a senior security administrator in the Safeguards and Security Department, read about a fatal shooting in the Yreka courthouse.

The metal detector will be installed at one of the entrances to the Siskiyou County Courthouse. Previously, metal detectors were not installed at all entrances leading into the courthouse. Sheriff's deputies use portable metal detectors to screen those entering the third entrance into the facility.

On Oct. 20, a man awaiting the verdict in his trial on charges of sexual assault pulled out a gun in the courthouse corridor and twice shot a woman who had testified against him and shot her husband once. The defendant, 68-year-old Edward Lansdale of Mount Shasta, then fatally shot himself in the head. His victims, Amber and Jeffrey Pearce, were hospitalized and survived the shooting.

The Associated Press reported that a Siskiyou County undersheriff said that officials had not installed metal detectors at the entrance to the courthouse because it was too costly and inconvenient for the general public.

"We had this metal detector we were no longer using and we thought this was a great way we could



DON JOHNSTON/NEWSLINE

From left: John Gonsalves, Leonard Semas, a Lab alarm technician and Sgt. Jeff Huston of the Siskiyou County Sheriff's Dept. with the metal detector.

put it to use for the benefit of the public," said Gonsalves.

Program to provide cash awards to employees referring job applicants

Because of the Bay Area's highly competitive job market, Human Resources is preparing a new program that will give cash awards to employees who refer applicants for Lab jobs who are successfully hired.

The Employee Referral Program is available for employee comment through Nov. 27. HR hopes to have the program in place sometime in December, pending DOE approval.

Detailed plan provisions are listed on the Employee Referral Program Website. The provisions include details on who is eligible to participate, referral criteria and award payment process.

The Laboratory is implementing this program as an integral part of its overall recruiting strategy. The program is an efficient, cost-effective way for the Laboratory to find potential employees in today's extremely competitive job market.

Current full- and part-time Laboratory employees will be eligible to participate in the program and may be awarded \$500, \$1,500, or \$3,000 if the person referred is hired for a designated position.

Candidates for the designated "award" positions will be asked to identify the referring employee during the interview process.

The referral plan is expected to help the Lab fill open positions more quickly, decrease the cost per hire, encourage employees to be part of the Lab's recruiting process and align the Lab with competitive practices in the greater Bay Area.

For more information about the Lab's Employee Referral Program, see the Website at <http://www-hr.llnl.gov/>

FERMI

Continued from page 1

President Clinton said. "Their pioneering work in the very complex area of arms control has benefited our nation and the world."

"We are very pleased to hear the president has honored such distinguished scientists with the Fermi Award," said Director Bruce Tarter. "As our first director, Herb was instrumental in creating the model for our Laboratory. His career has been extraordinarily distinguished with roles in arms control, national security and as the first chancellor of UC San Diego. Today he continues to be an adviser in arms control, national security and science."

York, 78, is a nuclear physicist and emeritus director of the University of California's Institute on Global Conflict and Cooperation, which he founded in 1983.

York served as science adviser to President Eisenhower and was the co-founder and first chief scientist of the Advanced Research Projects Agency. He was ambassador and chief negotiator for the Comprehensive

Test Ban Negotiations under President Carter.

York has been at the forefront of efforts to reduce international tensions through deterrence and negotiated arms control agreements.

York is the fourth Fermi award winner at the Lab. Previous recipients include former directors Edward Teller, Harold Brown and John Foster; E.O. Lawrence, for whom the Lab was named, is also a Fermi recipient.

Sidney Drell, 74, is a physicist and professor emeritus at the Stanford Linear Accelerator Center. He was deputy director of the laboratory until 1998 and has been senior fellow at the Hoover Institute since then. As a high-energy physicist, he has carried out important theoretical work in quantum electrodynamics and helped guide long-range planning of national accelerator laboratories. As an arms control specialist, Drell has been an adviser to the government on national security and defense technical issues. He is a founding member of the prestigious group of scientific advisers known as JASON.

"Sid Drell has had an extraordinary career in high energy physics and national security. His service as the

first chair of the UC President's Council set a standard and framework that guided the University's oversight of the Laboratory over the last decade," said Tarter. "The Fermi medal is one of the most prestigious honors a scientist can receive. We are pleased to hear of the recognition by the president and congratulate all three worthy recipients."

Sheldon Datz, 73, is a physicist and senior corporate fellow at the Oak Ridge National Laboratory. In his early career, he and a colleague developed a technique to study chemical reactions using crossed molecular beams. This work was the foundation for the present field of chemical dynamics.

The winners will each receive a gold medal and a \$66,000 honorarium. The DOE administers the Fermi Award for the White House, and Energy Secretary Bill Richardson will present the awards on Dec. 18.

The Fermi Award, the government's oldest science and technology award, dates to 1956. It honors the memory of Enrico Fermi, leader of the group of scientists who, on Dec. 2, 1942, achieved the first self-sustained, controlled nuclear reaction.



NEWS YOU CAN USE

**America Recycles
Day
is
November 15**



**Earth Hotline
3-2784**

HOME winners



JULIE KORHUMMEL/NEWSLINE

Lab employees took part in the first incentive drawing for the HOME campaign. Employees who return campaign packets by Fridays at 2 p.m. are eligible for the drawing. For more information, see <http://www-r.llnl.gov/home2000/>

Technical Meeting Calendar

Friday
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INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

"ISO's View on Star-Forming Regions," by Ewine van Dishoeck, University of Leiden.

Noon, Bldg. 319, room 205 (open area).
Contact: Joanna Allen, 3-0621.

PHYSICS & ADVANCED TECHNOLOGIES

"Mechanical and Constitutive Behavior of As-Received and Irradiated Zr-2.5Nb Pressure Tube Material at High Rates of Tensile Strain," by Darren Radford, Cambridge University. 10:30 a.m., Bldg. 319, room 205 (open area). Contacts: Peter Fiske, 2-7489, or Miriam Rinnert, 2-7369.

Monday
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CHEMISTRY & MATERIALS SCIENCE

"Mass Transport Limited ORR (Oxygen Reduction Reaction) on Chromate Conversion Coated Al-Cu, Al-Cu-Mg, and Al-Cu-Mn-Fe

Intermetallic," by Gabriel O. Ilevbare, University of Virginia. 9:30 a.m., Bldg. 543, room 1244 (uncleared area). Contact: Dan McCright, 2-7051, or Marilyn Elkins, 2-4950.

ENERGY & ENVIRONMENT FORUM

"Applied Energy Technologies (AET) and Health and Ecological Assessment (HEA)." 1:30 to 3 p.m., Bldg. 123 auditorium (open area). This is the first in a series of informal presentations on the scope and vision of the new Energy and Environment Directorate's programmatic and disciplinary activities. Contact: Mark Strauch, 2-1469.

UC DAVIS, DEPARTMENT OF APPLIED SCIENCE

"Very High-Resolution Simulation of Compressible Turbulence on the IBM-SP System," by Arthur A. Mirin, LLNL. 4 p.m., Bldg. 661 (Hertz Hall), room 13 (open area). Refreshments served at 3:30 p.m. for a "meet-the-speaker" session before the seminar and at 5 p.m. after the seminar. Contact: Estelle Miller, 2-9787.

Tuesday
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CHEMISTRY & MATERIALS SCIENCE

"Simulations of Interface Formation and Bonding Between Glasses," by Stephen Garofalini, Rutgers

University, 10:30 a.m., Bldg. 235, room 1090 (uncleared area). Contacts: Maria Caturla, 2-8964, or Linda Jones, 3-8839.

LIVERMORE COMPUTING

LC Customers' monthly meeting. 9:30 a.m., Bldg. 451, White Room (uncleared area). Contact: Teresa Felgenhauer, felgenhauer2@llnl.gov.

Wednesday
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INFORMATION SCIENCE & TECHNOLOGY

"Defect Tolerant Molecular Electronics," by Philip J. Kuekes, Hewlett Packard Laboratories. 1

p.m., Bldg. 481 auditorium (uncleared area).
Contact: Bernice Wootton, 3-8578.

ASCI INSTITUTE FOR TERASCALE SIMULATION

"The Analysis of Algorithms: Experiments vs. Theory," by David S. Johnson, AT&T Research Laboratories. 3:45 p.m. Bldg. 543 auditorium (Please note change of location; all visitors must be badged). Contacts: David Keyes, 2-1325, or Terry Garrigan, 3-6209.

SYSTEMS & NETWORK DEPARTMENT

"Network Appliance Seminar." Bldg. 361 auditorium (uncleared area). 8:30 a.m.: refreshments, followed by a product overview and new product announcements at 9 a.m. 9:45 a.m.: Oracle on NetApp filers; 10:45 a.m.: consolidating NT filers on NetApp. RSVP to Nathan Dillon, nathand@netapp.com, 408-822-3511, or contact Candace Gittins, gittins1@llnl.gov, 4-4952.

Thursday
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INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH

"Janus — a Library for Adaptive Unstructured Scientific Applications," by Peter Gottschling,

GMD First. 2 p.m., Bldg. 451, room 1025 (uncleared area). Contacts: Dan White, 2-9870, or Leslie Bills, 3-8927. For more information, see

<http://www.llnl.gov/casc/calendar.shtml>

PHYSICS & ADVANCED TECHNOLOGIES

"The Behavior of Nanostructured Materials at Ultra-High Rates of Deformation," by Dexin Jia, John Hopkins University. 10:30 a.m., Bldg. 319, room 205. Contact: Peter Fiske, 2-7489, fiske1@llnl.gov, or Miriam Rinnert, 2-7369, rinnert1@llnl.gov.

NOV. 16-17

ELECTRONICS ENGINEERING

"Signal and Imaging Sciences Workshop." Bldg. 123 auditorium. Nov. 16: "Adaptive Systems for Signal Processing," by Simon Haykin, McMaster University, Ontario, Canada. Nov. 17: "Subsurface Tomography Using Ultra-Wide Band Systems," by Christian Pichot, French National Center for Scientific Research (CNRS), University of Nice-Sophia Antipolis, France. To attend or give a talk or poster session, contact Liz Kurzeika, 3-5864 (registration or general information), or Marsha McInnis, 2-6150 (for abstract or poster information).

Friday
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INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS

A talk by Raja Guhathakurta, UC Santa Cruz. Noon, Bldg. 319, room 205 (open area). Contact:

Joanna Allen, allen64@llnl.gov or <http://www.llnl.gov/urp/IGPP/SemCalendar/IGPPSemCal.html>

MATERIALS SCIENCE & TECHNOLOGY

"Application of Nonequilibrium Free-Energy Estimation: Effectively Exploring Phase-Coexistence Boundaries from Atomistic Simulations," by Maurice de Koning. 3:30 p.m., Bldg. 235, room 1090 (uncleared area). Coffee and cookies will be served at 3:20 p.m. Contact: Thomas E. Felter, 2-8012.

**Deadline for the next calendar is
noon, Wednesday, Nov. 15.**



NEWS ABOUT HOME

Peterson lifts spirits by teaching the thrill of downhill

By Lynda Seaver

NEWSLINE STAFF WRITER

“If they can do this, they can do anything.” That’s the credo hundreds of “adaptive” skiers live by at Disabled Sports USA’s Mother Lode Chapter at Bear Valley, where each year children and adults with a variety of disabilities prove nothing stands in their way when it comes to snow skiing.

“It’s all about teaching people to have a good time,” said Noel Peterson, a senior mechanical technologist in the Lab’s Laser Science Engineering Division. Peterson is an instructor at the Bear Valley Mountain Resort Adaptive Ski School, part of Disabled Sports USA’s Mother Lode Chapter.

Each year Peterson spends about 20 weekends as a volunteer instructor at Bear Valley, where he teaches adults and kids with visual impairments, amputations, spinal cord injuries, multiple sclerosis, head injuries, cerebral palsy, and other neuromuscular and orthopedic conditions. Some participants eventually learn to ski on their own, others may require constant assistance.

“We turn no one away. We will find a way to get anyone who wants to participate up on the mountain,” Peterson said.

Peterson has been volunteering with the school since it officially opened 11 years ago. A devoted skier looking for a place to build a cabin, he recalled seeing a similar ski school during a trip to Alpine Meadows.

“It was very moving and very exciting. You feel this overwhelming thrill watching these skiers overcome a very real difficulty. The pride they have over their accomplishment, the excitement they feel – it’s hard not to get caught up in all of that.”

But it was while Peterson was working on his cabin near Bear Valley that he was approached to instruct. Peterson bumped into an instructor who told him about the adaptive school and its constant search for willing instructors.

“That was my chance and I jumped at it,” Peterson recalled. “Watching all these kids with their various disabilities, it’s easy to get attached to them. In some cases, these kids are going to die within a few years. But they won’t let that stop them.

“Their energy, that spirit, that’s what charges me. It just makes me want to teach even more.”

Peterson’s dedication and enthusiasm is what finally convinced a co-worker to bring his son to the



Lab technologist Noel Peterson, with one of his young charges, is confident he can get anyone on skis.

school. Victor Sperry, who works in Physics and Advanced Technologies, has a son, also named Victor, who suffers from cerebral palsy. The younger Victor cannot verbally communicate and is confined to a wheelchair. But within minutes of strapping the boy into a special chair fitted to a ski, the boy was traversing the slopes of Bear Valley, with Peterson guiding him along, much like steering a dogsled.

The elder Sperry smiles at the same time he starts wiping at his eyes when he says “I still get choked up about this. I would never have thought Victor would be able to get up on skis. Until then he didn’t really like motion.”

But in videotape of the younger Victor’s first foray on the slopes, an ear-to-ear smile clearly indicated the 17-year-old boy had a new interest. Equally poignant

are Sperry and his wife’s comments heard as Victor is riding the ski lift to the top of the slope. Initially there is a great deal of worrying going on. But as soon as Victor starts carving through the powder, two parents are overcome with emotion.

“My son is SKIIIIII---ING!” you hear Sperry shout in victory to all passersby.

“He’s ready to go again,” Sperry summed up of that day. “He had a great time, and so did we. It was such an emotional thing to see my son on that ski and coming down the mountain. You can’t buy that sense of accomplishment.”

Disabled Sports offers all manner of specialty skis and instruction for the disabled. Most employees are volunteers — only the chapter’s director collects a small salary.

Peterson credits Bear Valley for allowing the school to exist and use the lifts for very small fees, and the Lab for allowing him to parcel out vacation time over the winter so he can volunteer his time, which often extends beyond weekends. Peterson has also been known to spend his evenings constructing specialty skis, boots and bindings for those with special needs.

“The skiers who come here really make you appreciate what you have,” Peterson said. “You get the sense that what happened to them could happen just as easily to you, and that teaches you what it means to be thankful.”

Established in 1967 by disabled Vietnam veterans to help the war injured, Disabled Sports USA began to reach out to non-veterans in the 1970s. In addition to snow skiing, activities include water sports, track and field, cycling, volleyball and swimming, winter and summer competitions, fitness and special sports events. Disabled Sports USA is also a Disabled Sports Organization member of the U.S. Olympic Committee.

Disabled Sports USA was not included in this year’s booklet of employee chosen agencies for the HOME Campaign, though Peterson says it has been a part of previous campaigns. This year employees can still contribute through the write-in portion of the United Way campaign, by donating to Disabled Sports USA, 501c3 number 946174016. Please designate Mother Lode Chapter – 68-0345563.

For more information about Disabled Sports’ Mother Lode chapter, call 209-795-5811 or write Disabled Sports USA, PO Box 4272, Camp Connell, CA 95223.

HOME statistics as of Nov. 9
TOTAL AMOUNT DONATED: \$455,699.84

DIRECTORATE	TOTAL EMPLOYEES	TOTAL CONTRIBUTIONS	AMOUNT DONATED (ROUNDED OFF)	PERCENTAGE
Defense & Nuclear Technologies	374	39	11,359	10
Laboratory Executive Office	76	18	3,965	24
Computation	891	133	51,939	15
Engineering	2,010	301	106,617	15
Chemistry & Materials Science	447	97	31,799	22
Deputy Director for Operations	2,652	534	133,776	20
National Security	14	4	675	29
NIF	189	29	10,597	15
NAI	254	59	16,459	23
Director’s Office	72	17	7,390	24
Deputy Director, Science & Technology	66	16	3,520	24
Physics & Advanced Technologies	371	63	24,178	17
Biology & Biotechnology Research	237	77	17,492	32
Energy & Environment	331	65	26,138	20
Johnson Controls	SLO	52	9,760	0
Others	2	2	35	100
Totals	7,986	1,506	455,699.84	19%



CLASSIFIED ADS

AUTOMOBILES

1994 - Jeep Grand Cherokee Laredo 4x4. Great Condition in/out. Trip computer, e-compass, New Big-Os. Go to the snow in style! 209-599-2299

1992 - HONDA CIVIC, 2 door Red ext/Black & gray interior,custom wheels, great gas saver. \$5K OBO 209-606-7329

1989 - 4WD Dodge Colt 4-dr Hatchback w/ Air conditioning. 96000 mi. ~30 MPG. \$2200 OBO 925-778-7390

1989 - Honda civic lx, gld color,at,ac,ps,pb,pw, excl int, excl cond. \$2500 obo 209-892-6271

1985 - Oldsmobile Toranto one owner fully loaded, like new, leather interior, 76,000 original miles. \$3500.00 or best offer. Call after 6pm. 209-543-7950

1994 - Jeep Grand Cherokee Laredo 4x4. Great Condition in/out. Trip computer, e-compass, New Big-Os. 100% Finance via Uncle! 209-599-2299

1991 - TOYOTA PICK-UP,Ext. Cab Burgandy ext/Gray int./ Bed Liner, hitch w/lights Great on Gas, Good Conditions. \$5K OBO. 209-606-7329

1977 - Mercedes Benz 300D - Metallic Blue, four door, sun roof,AC,AT in excellent condition, including paint, motor, and interior. \$4000. or BO. 925-447-3552

1995 - Honda Civic EX Coupe. Red, 1 owner, automatic (4 speed), ps, pb, ac, sunroof, stereo. \$8,850 209-839-9740 209-839-9740

1993 - Pontiac Grand Prix. Excellent condition. AC, AM/FM/cassette, cruise. \$4500. 925-485-1988

1994 - Jeep Grand Cherokee Laredo, V-8, all wheel drive, Infinity Gold stereo, 107K miles, \$11,500/OBO Leave Message 925-846-3970

1992 - Ford Ranger XLT 4X4 Pick Up,Cruise,ac,ps,and camper shell \$5995.00 or obo. 209-538-6121 209-293-4883

1988 - Volvo 740, grey sedan,runs great,would make excellent commute vehicle,\$1500 obo. 925-426-5428

1992 - Ford mustang, new red paint, auto, PS/PW, AC, runs great. \$3500 OBO 925-875-9292

1992 - Corvette.Low milage.30k miles.Loaded.Removeable top. Bose sound system.\$18500 OBO 925-443-2808

1992 - Saturn SL1. Lots of extras. Runs great. \$3600/obo. 209-823-5085

1992 - Explorer XLT, 4x4, loaded, all power, sunroof, CD player, teal exterior, tan leather interior, runs well, \$6900. 925-862-2084

1994 - CHRYSLER LHS, dk green, AT, ABS, AC, Alloys, CC, airbags, leather, moonroof, phone, PDL, PW, AM/FM/CD, PS, tilt wheel, tinted windows \$8800 OBO 209-839-8759

1991 - Mazda MPV, white W/ blue int., V6, 126k mi., front & rear AC, PW, PS, AM/FM/CS, cruise, privacy glass, runs great, orig. owner. \$5500 925-829-4946

1996 - Ford Bronco XLT, white, AT, AC, tow pkg, clean, 4WD, leather, 91K miles, \$14,500 obo 925-447-7780

1987 - Toyota Corolla LE 4door sedan metallic beige 5 spd 146K miles Runs Great New brakes and rotors Blue Book \$2500, asking \$1250 BO 415-641-5261

1994 - Chevrolet Camaro Z28, Blue, Custom Stereo, New Tires, Alarm, Clean. 10K obo 209-239-7856

Captains Chairs for van includes matching bench seat that folds out into bed, bolts into your van, priced to sell! \$75.00/all 209-832-3069

Red Camper Shell for 1987 Mazda B2000 long bed pickup truck. \$125. 925-447-8503

Tire Chains. Never been used.Originally bought for V.W.Golf. Fits numerous tire sizes \$15 925-447-6301

STEREO SPEAKERS. Pair of KRACO tri-axial auto speakers, 6x9 inch, 4 ohms. Like new. \$40 for the pair. 925-443-6423

Kent Co-pilot; Trail behind your bike child carrier w/ 20 inch rear wheel, used twice and in excellent condition. \$25 925-935-9344

Personal site bike, not pretty but working just fine, with strong basket & lock. Never walk back again! \$20. 925-455-0383

TREK850 Mountain Track, mens 21-in. frame, mirror, Trek Speedometer. New chain/tires/cluster, only street use,

BICYCLES

looks/works like new. \$150/BO 925-455-5439

Girls Schwinn original Sting Ray bike, 24 inch wheels, banana seat. \$50./offer. 925-606-6515

17 ft. Rinell deep-V boat, 85hp Evinrude motor, runs exc. & exc. trolling boat, new paint & seats w/other extras. \$2,000 or B.O. 209-537-2961

100-watt stereo system, including CD player, dual cassette and speakers. \$100. 209-524-7126

Uniden Bearcat BC-895XLT 300 Channel Trunktracking base radio scanner with CTCSS tone board and RS232 port. New in box, \$200. 925-455-4484

Large TV Roof Antenna, with new rotor. \$10/B.O. 925-455-5223

HP Draftmaster RX Roll Feed Pen Plotter. Manual, Roll Vellium, Bond & Pens included. Works great! 925-586-2254

Macintosh power Performa P.C. 6116 CD,Excellent condition,manuals and software,B/O,Personel laser printer,\$25.00 925-371-5371

PowerMac G3 400MHz Minitower B&W, Apple 17 in. display, 192MBs Ram, factory Ultra2 SCSI 9GB HD, Enet, 56k modem, factory internal ZIP. \$1475 925-945-8780 925-371-5371

ELECTRIC KEYBOARD. Casiotone 310T, 49 key multi-voice with rhythm, chords, arpeggios. Int. amp & speaker, line out, batt/AC. Not MIDI. \$65. 925-443-2245

Uniden 25 Channel cordless phone, 30 number Caller ID, Page/find, Alpha/Numeric LCD, Voice Scramble, Call Waiting. With box, fully charged. \$60.00 209-839-8628

Free three wheel bicycle three speeds, basket in back. Has flat tires. 209-576-0217

Patio door removed for remodeling. Fits standard 6-ft wide opening. Prehung wood swinging door with sliding screen. U-haul. 925-837-0421

Black leather sofa and love seat,\$3800 new. Moving, must sacrifice. \$1100. Leave message. 925-373-9274

Maple Mr dresser, Mrs dresser w/mirror and nightstand. Good condition - \$100 OBO 925-449-0905

BOYS Clothes and more BOYS clothes!! Wonderful Condition!! 12-24 mos. \$40.00 925-447-1603

Entertainment center, oak solids and veneers, 60 in wide, 72 in tall, holds up to 35 in TV, \$200 or B/O 925-606-6155

XMAS GIFTS! Scented Candles, Silk Pillows, Wine Giftbags, Saschets, Cocktail Napkins. 925-413-3274

Refrigerator, Sears, 18 cu. ft., ice chest on top; very clean, excellent condition, almost new. 925-447-4753

Dinnette set. Modern design. Smoked glass top with black metal frame. 4 black metal frame chairs. 42x42 inches. Excellent condition. \$225 obo. 925-455-1689

7-drawer wood desk 22x52, excellent condition \$175, toaster oven \$20, Samsonite 24 inch hardside suitcase \$35. 925-447-8613

Twin down mattress pad, paid \$78 last x-mas, asking \$45. 925-449-4924

Espresso/Cappuccina Maker, Maxim Model EX-102 very little used. \$30.00 OBO 209-836-2524

Entertainment center, solid pine, glass cabinet door, drawers and storage area, like new, 56in.Long/51in.High/19in.Deep, unfinished, \$180. 925-803-5804

TWO hunter green sofas; rich color with overstuffed (pillowy), leather look; great condition; under 3 years old; moving; \$375 each. 925-753-5131

Sunbeam propane/lava rock BBQ, fine shape, 2 broilers & side-dish heater, with tank, valve, & cover, \$70. 925-455-0383

MOVING SALE: full size bed (\$20), kitchen table (\$15), futon extra clean (\$50), brand new 20inch TV + VCR (\$80), women bike (\$20), and more... 925-425-0920

Whirlpool dishwasher good condition \$50.00 or offer, 6 ft. dual pane sliding glass door with aluminum frame, \$50.00 or offer. 209-599-5056

Kenmore washer, top loader, \$85; electric

BOATS

ELECTRONIC EQUIPMENT

dryer, \$80; both heavy duty, 12 yrs old: Whirlpool refrigerator, 14 cu.ft. top freezer, \$85; white color. 925-455-1183

Maple drop leaf table no chairs for \$35.00 and tubular frame reclining chair green fabric around frame/ ottoman for \$15.00. 209-576-0217

Foodsaver vacuumpacker w/ accessories, bags, manual, video. Used once. Works great. Needs larger family. \$195 @ Costco. Sell \$120 or BO. 925-455-5439

LOST FAMILY DAY Royce Union Bike Yellow 27 inch 10 speed black back tire, white gum wall tire on front. 209-464-9398

Lost: A blue and black insulated lunch bag. Left in the basket of a lab bike outside of Medical on 10/31. If found, please call 21648. Thank you! 925-417-7551

Twin sheet sets, \$5.00 for each set. 925-449-4924

Portable welding outfit, Uniweld No. 500S oxygen & acetylene, minitorch, 2 extra torches total weight 30 lbs. \$200 OBO 209-836-2524

Leigh Dove tail Jig Model D4-24. Accepts boards up to 24inch wide, instuction manual. Paid\$400 asking \$200. 925-513-3538

Medela Pump In Style breastpump and accessories. Excellent condition. \$125. 925-484-3847

Cardio glide and Ab roller, excel cond. make offer and it's yours! 925-447-4611

British coin collection. Most sets including some rare ones & extras. after 6pm or lv msg. 209-954-9853

Band Saw, Powr-Kraft (Wards)13in.thr.,5in. height. 1/2 hp. motor. \$100 925-447-6301

Two 49er tickets in section 23 for the Falcons on Nov. 19th and the Bears on Dec. 17th. Face value. 707-255-0736

Nintendo64 Game Console, 3controllers, additional memory cards, Tremor pack, 7games including PD. Perfect, great for Christmas, \$350 or BO. 925-736-7799

Portable massage chair, never used, Portal-Pro, black, powder coated, new \$599, asking only \$299. Great DEAL! 925-648-8008

20 gallon fish tank, filter, heater, light, blue gravel and supplies for sale \$25.00 takes all. Great for Christmas. 209-576-0217

Piano music, 8 volumes, Classical & Popular. Edited by Victor Herbert, circa 1904. New binding. \$200.00 or best offer 925-935-5004

ELECTRIC GUITAR. Kopycat (Japanese) replica of Gibson Les Paul, with new SKB hardshell case. \$300. 925-443-2245

YAMAHA CLAVINOVA KEYBOARD, CVP-8, black, ROM music, 16 rhythms, 16 voice selections, performance and sequencer memory, \$1500. After 4PM kid9-754-4367

PIANO MUSIC, 8 Volumes, Classical & Popular. Edited bu Victor Herbert, Circa 1904. New binding. \$200.00 or best offer. 925-935-5004

Doghouse - plastic dogloo, medium size, never used, cost \$50, sell for \$10. 209-832-7582

Australian Shepards; young adults and puppies. Call for information. 209-368-3112

Free to good home. Two great big 5 yr old gray tabby cats. Litter mates. Spayed and neutered. Vaccines are current. Very personable cats 925-256-7112

Portable dog run (fence) for R.V., tenting etc. Brand new was \$80.00 will sell for \$30.00. 209-576-0217

ABSHAPER: As seen on TV; Like new. \$50/OBO. 925-447-8264

IRON MASTER universal heavy duty self spotting weight machine rated @ 600 + lbs. Red /crome PLUS free weights w/rack over 1000 lbs. \$650 O.B.O. 209-606-7329

Golf Bag; Team Daiwa, White,black and gold, fur lined, mid-sized and in great shape. \$10 925-935-9344

Cardio glide and Ab roller, excell. cond. 925-447-4611

Blizzard V16 skis for sale length 190mm with Solomon binders in great shape for \$50.00. Great gift for Christmas. 209-576-0217

LOST & FOUND

MISCELLANEOUS

MUSIC INSTRUMENTS

PETS & SUPPLIES

RECREATION EQUIPMENT

RIDESHARING

Express your commute, call 2-RIDE for more information or visit the web site at <http://www-r.llnl.gov/tsmp/> for more information

San Jose & Fremont Mission - Space is available from San Jose and Fremont-Mission areas. Work hours: 7:30-4:30. Call 408-238-1909, ext. 3-3057

Oakland - Monclair Vanpool is looking for riders. Luxury Vanpool with reclining seats and riding lites 8:15am - 5:05pm. Pretax reduction available. 510-834-6405, ext. 4-5173

Modesto - Vanpool, Modesto to LLNL 7:00 to 3:30 shift. after 5:00 pm. 209-529-1010, ext. 3-0487

modesto - WORKING A 4-10 WORK WEEK and want to have a vanpool? 209-667-2365, ext. 2-8321

San Franciso - Want to share the driving from SF to LLNL at least a few times a week? I have a car, flexible hours, & live in North Beach. 415-474-2761, ext. 4-3821

Walnut Creek - Pleasant Hill, Walnut Creek-Lavorna Vanpool, 14 passenger, reclining seats, reading lights, 8 to 4:45, Bargain Rate, 925-945-4926, ext. 2-2805

Fremont - Driver wanted for 9psgr van.8am-445pm.Have other drivers to share driving. Friendly group. Drivers get \$\$ off monthly. 510-792-7848, ext. 4-3791

Berkeley - Berkeley- leave~7.30 Route: Cragmont,Eunice, Oxford, Dwight, Tunnel Road, Hghway13,580(Stop @Redwood Av.),Leave LLNL ~5.10.\$90 510-548-0704, ext. 2-6884

Modesto - Carpool of two looking to add two persons. Each drive one week per month. Meet near mall. work hrs 7:30-4:00 209-557-0456, ext. 3-3575

Lafayette - LaMoRinda (also Walnut Creek stop at Rudgear Rd) luxury Vanpool (reclining seats, reading lights) 8-4:45, \$115/mo (pretax reduction available) 925-376-5346, ext. 2-3005

Valley Springs - LINDEN, STOCKTON: Rider wanted for carpool (7:00 a.m.-3:30 p.m.) leaving from Valley Springs at 5:10 a.m. 3-6997. 209-772-3141, ext. 2-4748

TUTORING in high school and college math and chemistry. 925-443-2095

Tree Stump Removal & Sprinkler Repair FREE Estimates 925-443-6010

Painting interior,exterior quality work, quality paint.neat and clean.free est. 925-447-0589

House painting, Modesto, Manteca,Tracy areas. I can beat anyones price! Free estimates. 209-551-0962

Handyman, repair and or replace most anything. small job specialist. 925-373-3465

Livermore - Room in 3BD/2BA house with yard, laundry, full privileges, phone, cable modem, some furniture & store space, N/S, \$425 + 1/3 utils. 925-449-3165

1983 - Chevy K5 6.2 Diesel 4X4 w/Tow Hitch,PS,PB,PW,PL, Tinted Windows KC Lights Lugage Rack, Grill Guard, Pullout AM/FM Tape Player \$3800 or B.O. 925-373-8360

1988 - 4WD Ford F150 Lariat SuperCab. Bedliner & Shell. P/S, A/C, Elect win & locks, Towing Pkg, Limited Slip Diff, Sliding rear window. \$5500 OBO. 925-778-7390

1996 - 29ft Seabreeze RV model 129, 454 Chevy engine w/overdrive, 19inch TV, 5.5KW generator, central air, awning, microwave, HWH levelers Very Clean, \$37K 925-449-5481

1956 - Chevy. Great project truck. 350 eng,new Edelbrock 4 brl carb,aluminum manifold, saved all receipts, needs tires and elect. \$2500 OBO. 925-447-8081

1994 - Ford F-350 Crew Cab: tow package; reverse ball gooseneck hitch; electric brake; AT; Anti-lock brakes; ABS; PW; PL; AC; Alarm; CD; & more. \$15,000/OBO 925-447-8264

1984 - Trailer, Road Ranger, Heater, Air Conditioner,sleeps 4 to 6, Dual Batteries, Spare Tire, Large Bath, \$3,995/BO 925-447-6819

1991 - Mazda B2200 cab plus pickup. 165K miles, 1 owner, LE-5 pkg. 5-spд, a/c. \$3500 or b/o. 925-443-2424

1966 - Two horse trailer, tandem axle, step-up, 6 ft. tall, escape door and tack compartment. \$390. 925-455-1183

1988 - Allegro Motorhome, 28 feet, 58K, micro,A/C, 4.5kw generator, sleeps 6-8. \$11,995 or B/O 510-581-5228

1989 - Ford XLT F250, 5.8L, 64K miles, 92 Vacationeer camper, 10ft.4in., self-contained, awning, air, tow bar, \$16K OBO; or camper only \$7K 510-793-2031

1991 - Toyota pickup truck, exel. condition, 5speed, 80K mi. black w/silver shell,bedliner,bumper, 2way window, protable cassette player, \$5500/obo 650-368-8338

1989 - Chevy dually 454 - 54k miles, A/T, Air,Tilt, 5th Wheel, Xtra Cab, Blue....\$8,000 925-625-5252

BELIZE/CARIBBEAN - Coastal vacation home 2br/1ba w/car/maid service,Maya/sea/reef-adventure, eco-tours, birdwatching. \$125/nigt+ sec/dep. 209-892-6271

Truckee, Tahoe Donner - Ski-Lease space avail. Casual atmos., large LR, den, kit., 3BR/2Ba, hottub. No. lake loc. conven. to resorts/trails. \$1000 for Jan-April. 510-452-5239

Twain Harte - Fully furnished.2bdr 2full bath.Cable TV,VCR, microwave,washer,dryer,dishwasher and more. Close to Dodge Ridge ski area.\$150wknd \$300wk 925-443-2808

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, nicely furnished,quiet area , all amenities, close to all ski areas, Thanksgiving, New Years week Open!Reserve Now! 209-599-4644

HAENA, KAUAI - - Private house and/or studio on the scenic north coast near Hanalei Bay - great beaches, hiking, boating and golf. House-\$125/day, studio-\$75/day 831-479-3441

Used medical supplies and equipment will be sent to Red Cross clinics in Torreon,Mexico. Tax receipt avail. 925-447-7394

HELP - Would like someone to share carpooling our kids to Christensen/Croce Schools in Springtown. 925-413-3274

Wanted: stock intake manifold for 73 Chev 454 big block and valve covers. after 6pm or lv msg. 209-954-9853

Your used kitchen cabinets for installation in garage, color and condition not important. 925-606-6155

WANTED: Large computer/business type desk for tax service, call or leave message 209-786-5910

Got any flat sheet metal sitting around you want to get rid of? Old rusted or New, I need it for my hobby as an artist. C 209-526-6272

A ride in a small, private airplane. Will pay the expense of fuel for the flight. 925-371-5388

BARNEY and SESAME STREET Videos wanted. 209-544-8540

28-Gauge barrel for a Remington, Model 870 or 1100. 925-447-6099

Gas Dryer, Kenmore or Whirlpool White or Almond preferred. 925-443-5565

Granada High School parent interested in sharing carpooling Westside/Livermore area student. Please call 925-443-5732

WANTED - Large dog house. Free or at a very cheap price. Please call. 209-832-8723

Someone to install/hook up gas line for gas dryer in the Oakley area. Call and leave message. 925-625-2051

Old Hot Wheelies from the 60s and 70s, call 449-3152 925-449-3152

Organist to record church music on tape for approx. 30 hymns. 209-836-3041

Looking for any bedroom pieces of Century furniture. Chin Hua collection. 209-836-3790

Porsche 911, 1990 or older, in excellent condition. Will pay reasonable price. 925-648-0671

Looking for someone to come into my home and clean it twice a month. Six hours a month, must speak english and be dependable. 925-449-7751

Trixie Belden books for 5th grader. Will buy paperback or hardback. 925-484-4785

Looking for older manual 35mm cameras for photography students. Also looking for darkroom equipment. 925-373-0173

Camper jacks. Reasonably priced. 209-832-1750

WE ARE ESTABLISHING a forum of professional Certified Massage Therapists. A GREAT opportunity to share our skills and knowledge! 209-962-5468

VACATION RENTALS

WANTED

Hats off to Halloween



The Director's Office held its annual Halloween/HOME Campaign hat and costume contest last week. Among the participants were Paul Brown, Sheryl Rikard and Lisa Palmer (above). Contest winners include Sharon Rector, Katie Didion and Julie Korhummel (right).



PHOTOS BY LYNDA SEAVER & JULIE KORHUMMEL/NEWSLINE



Meanwhile, the Environmental Protection Department held a Halloween luncheon and auction of carved pumpkins. EPD employees raised more than \$1,000, which will be used to benefit families through Lab Lends a Light and the McHenry House in Tracy, among other charities. The pumpkins were carved by employees from EPD's Operations and Regulatory Affairs Division. At left, Susi Jackson emceed the festivities while Jim Woollett was entertained by a mystery guest rumored to be Rita Wofford (center). At right, are some of the pumpkins that were auctioned off for as much as \$100.

NEVADA

Continued from page 1

cal and archival records, films, photographs, testing and archaeological artifacts associated with the NTS. The Institute will be a museum not only for the NTS, but the nuclear testing programs of the three weapons laboratories as well.

The foundation's mission statement reads: "The mission of the Nevada Test Site Historical Foundation is to preserve and foster public accessibility to the history associated with the Nevada Test Site and the nation's nuclear weapons testing program. The foundation promotes cultural, educational and scientific programs to encourage the development and public exchange of views regarding the NTS and its impact on the nation."

The Nevada Atomic Testing History Institute will consolidate existing resources into a single facility to make them more accessible to the public and researchers. The institute will consist of three main elements:

- The Coordination and Information Center (CIC) presently operated by Bechtel Nevada for DOE/NV. The CIC, located at the DOE's North Las Vegas facility on Losee Road, is dedicated to the collection, consolidation and preservation of historical documents, records and data dealing with radioactive fallout from nuclear testing. It is home to more than 340,000 documents on this subject. It also serves as the central repository for public and governmental records access and is the location of DOE's public reading facility.

- The Desert Research Institute is a non-profit, statewide division of the University and Community College System of Nevada and is internationally recognized for environmental research. DRI serves as curator for NTS and Hot

Creek Valley, Nev., artifacts. Under three federal laws, the DOE is required to preserve collections of prehistoric and historic material remains and associated records recovered in conjunction with federal projects. The artifacts must be maintained in repositories that provide adequate long-term curatorial services.

- A museum of approximately 10,000 square feet will house exhibits of historical and archaeological NTS artifacts, static displays and exhibits sponsored by NTS customers highlighting past, present and future activities.

The intent is to make the institute a world-class museum. A professional museum-planning firm, J.J. Andre Associates, Ltd., delivered the Exhibit Master Plan last November. In April, the foundation achieved a major milestone when it gained "affiliation status" with the Smithsonian Institution of Washington, D.C. The institute will house the records and artifacts currently held by the CIC and DRI respectively as well as provide museum exhibit space for displays relating to nuclear testing activities at the NTS.

"There's an opportunity here for people from Lab programs to personally contribute to the preservation of the nation's nuclear testing legacy," Wofford said. "Please begin looking through any memorabilia you might have that would be appropriate for the institute's museum."

The institute will also sponsor educational outreach programs and provide research facilities for students and scholars and meeting and conference facilities in order that issues relating to nuclear testing may be discussed by concerned individuals in context.

Work on the collection of exhibit materials has already begun. A small interim exhibit area already exists at the Nevada Support Facility complex next to the CIC building in North Las Vegas, and a small retail gift shop is

in operation where memorabilia highlighting the 50-year history of the NTS is available.

The ceremonial groundbreaking for the institute is scheduled for Dec. 18 at the DRI facility on Flamingo Road in downtown Las Vegas. This date coincides with the 50th anniversary of President Harry Truman's signing of the order establishing the Nevada Proving Ground, what is today called NTS. The secretary of Energy, the governor of Nevada, Nevada congressional representatives and the Secretary of the Smithsonian Institution have all been invited and are planning to attend.

On Jan. 27, 2001, an open house is planned at the NTS. This date celebrates the 50th anniversary of the first nuclear test in Nevada. It will be open to all Laboratory and former Laboratory employees and their families. A number of activities are planned for this event including a bus tour of the NTS, a walking tour of Mercury and displays by organizations that have participated in NTS activities. Badging request forms will be available starting Nov. 1 and must be turned in by Nov. 30.

A variety of foundation memberships are available, from \$25 individual to \$5,000 corporate champion memberships.

"Regardless of how one feels about nuclear energy in general, and nuclear testing in particular, its advent has certainly been one of the most significant events of the last century," Wofford said. "Nuclear testing has played a major role at this Laboratory for most of its 48-year history. The availability of accurate information regarding nuclear testing is vital to understanding not only the history of LLNL but the nation as well."

For more information, contact Wofford at wofford1@llnl.gov or 2-1033.



THE BACK PAGE

DIRECTOR'S OFFICE

Continued from page 1

diagnosis of propellant stabilizers and explosive rounds in remote settings, and we will further develop it for field analyses of drugs and chemical warfare agents in the near future.

'Fingerprinting' questioned samples

The other principal focus of the FSC is the effective forensic characterization of virtually any questioned specimen for molecular, elemental and isotopic signatures. Should an investigation of suspect samples require, we can routinely perform analyses for accelerants, high- and low-explosive residues (including novel high explosives associated with nuclear weapons construction), poisons, pharmaceuticals and other extraordinary chemical species.

In addition, the FSC has reliable methods and extensive experience in the analysis of signature species of all three flavors of weapons of mass destruction — nuclear, biologic and chemical — or what is termed NBC warfare. Along with any primary analytes of interest, we also forensically characterize collateral synthesis precursors, reaction byproducts, environmental or metabolic degradation species and other impurities. Such information often provides a time-history for the investigation, valuable intelligence data or a material "fingerprint" to compare with established databases or other pertinent samples.

For example, in nuclear forensic analyses, the isotopic composition of uranium or plutonium is a primary measurement for determining whether the special nuclear material is of weapons-grade quality. However, auxiliary assays of radioactive daughter nuclides, fission products and actinide or other inorganic impurities can allow some fairly wide-ranging conclusions. These include the age and processing history of the sample, the type, flux and fuel composition of a parent reactor, isotope enrichment technology, parent ore composition, and so on. FSC measurements of such "fingerprint" data often span the range from bulk composition to

ultratrace species concentrations.

End of the Cold War brings increased trafficking

The demise of the former Soviet Union produced new nuclear proliferation concerns that were confirmed by the large increase in illicit nuclear material trafficking and sales on the black market during the past decade. The Livermore FSC has been a primary analysis lab for the comprehensive forensic characterization of interdicted nuclear materials. Such analyses interrogate not only specimen radioactivity properties for potential source attribution, but also more conventional forensic signatures (fibers, particles, etc.) for potential geolocation and route attribution.

Many of these investigations have been described only in classified reports. However, several of our nuclear forensic cases that proved to be scams or hoaxes have been published in open literature, such as the *Journal of Forensic Sciences* and the *Journal of Radioanalytical & Nuclear Chemistry*.

The CBW threat

The modern chemical warfare (CW) threat was manifest in 1995 by the release of sarin nerve gas in the Tokyo subway by the terrorist Aum Shinrikyo cult. Since that time, the FSC has analyzed several suspected CW specimens from domestic sources at the request of various law enforcement, Hazmat or other first-responder organizations. None of these investigations has been published in open literature. However, a limited description of one of them was presented at a special symposium on weapons nonproliferation at the annual August meeting of the American Chemical Society.

The analytic biological warfare (BW) activities of the FSC are exemplified by the interdiction of a shipment of tetrodotoxin into the United States from a foreign source in 1997.

Tetrodotoxin is a potent marine neurotoxin, and this shipment was of sufficient quantity to raise concerns about domestic terrorism in the minds of U.S. law enforcement. The FSC's participation in this investigation, with the development

of a forensic protocol for the identification of the biotoxin, was published in *Forensic Science International* last year.

Fundamental forensics

Thus, the Livermore FSC is principally involved with non-routine samples and analytes (in contrast to more conventional forensic labs), as well as with extraordinary incident analyses. Examples of the latter can be found in a fatal "cold fusion" explosion and the Riverside Hospital "mystery fumes" incident, literature references to which are cited in an invited cover article for the October 1998 issue of *Physics Today*.

The FSC is also highly focused on technology applications to counterterrorism efforts at federal, state and local levels. Although the center is supporting selected law enforcement investigations, such requests are carefully screened and must be ones that require a "higher-tech" approach and analysis than are otherwise available.

LLNL's singular combination of human and technical resources has made the Forensic Science Center among the best forensic labs in the world. Indeed, Tom Clancy's recent book, "Shadow Watch," called the FSC "the best group of crime detection and national security experts in the business." Using a comprehensive array of sophisticated technologies across the entire Laboratory, the FSC is able to thoroughly characterize evidentiary materials of importance to national security, counterterrorism and intelligence investigators. The Laboratory's analytic capabilities feature state-of-the-art sensitivities and discrimination for detecting virtually any target analyte within any sample matrix.

The FSC's fundamental-forensic approach maximizes the information returned from the often-limited samples collected by a variety of verification, inspection, intelligence and law-enforcement agencies. As emerging technologies continue to develop, the FSC will adapt and enhance the pertinent analytical tools for future applications to real-world problems and investigations.

KUCKUCK

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Institutional Facilities and Site Operations.

Immediately prior to taking the role of deputy director, Kuckuck served from 1992-94 as special assistant for Laboratory Administration at the University of California Office of the President, where he created the University's Laboratory Administration Office. This office is responsible for the administration and operations oversight of the University-managed DOE laboratories, which includes LLNL, Los Alamos and Lawrence Berkeley national laboratories.

"Bob has provided invaluable service and leadership to this Laboratory," said Director Bruce Tarter. "Under his guidance, Lab operations have been greatly strengthened, and he has represented the Lab with extraordinary effectiveness in its interactions with the University of California, the Department of Energy and our other constituencies. He will be missed at all levels of the Laboratory."

Kuckuck said he has been "struggling with the concept" of retiring for two years, but continually put the thought aside. But now that his wife Marilyn retired in August, he "wants to spend more time with her."

While he has no definitive plans, Kuckuck says he would consider consulting or continuing some other involvement in the weapons programs or arms control area. He smiles when he says he plans "to devote a lot more time" to various other interests, among them golf, skiing, scuba diving, travel and flying. Kuckuck is a licensed pilot who recently returned from a vacation to Mexico, during which he and a friend shared the piloting. Kuckuck says he would like to write some fictional stories for his grandchildren, interweaving science as a way to spark their interests. He also hopes to resume painting, something he put aside "several years ago."

"It just seems like a good time to do this," he summed up of his leaving. "The Lab has been through

a lot these past few years, but we got through it. Now the building blocks are being put in place to take this Lab higher than ever before. I'm very optimistic about the future."

Kuckuck joined the Lab in 1963 as an experimental physicist conducting research in atomic, nuclear and X-ray physics and developing measurement techniques for underground nuclear tests. At the time, Kuckuck came specifically to earn his Ph.D.

"I wanted to earn my degree and leave," he quipped. "Edward Teller had just started 'Teller Tech' (the Department of Applied Science), and this was an exciting place to be."

While Kuckuck earned his doctorate from UC Davis in 1972, the leaving part took a little longer. Over the next 28 years Kuckuck's career would be divided into two parts, one as a scientist, the other as a manager.

In 1975, he was named assistant to the program leader for the Solid State Lasers/Inertial Confinement Fusion Program, where he was responsible for program planning during the building of Shiva, the world's largest laser at the time. In 1977, Kuckuck was appointed assistant to the associate director for Nuclear Testing, where he planned and scheduled the Lab's underground nuclear testing program.

Kuckuck served as program leader for the Treaty Verification Research Program from 1979-81 and as deputy division leader of L Division from 1979-82.

During this time, L Division was responsible for the design and execution of weapons physics experiments, including all underground nuclear tests at the Nevada Test Site.

Following that assignment, Kuckuck went on to become deputy associate director for Nuclear Design. He was named associate director for Nuclear Test-Experimental Science in 1984, a position he held for seven years. During those "Star Wars years," Kuckuck was responsible for directing the Lab's underground nuclear weapons and experimental science program, as well as the Treaty Verification Research Program.

Kuckuck joined the operations side of the Lab in

1991, when he was named associate deputy director, second in command to the deputy director, Duane Sewell, for all aspects of Lab management. Kuckuck was also responsible for leading Lab efforts in support of the UC-DOE contract negotiations.

Under his current role as deputy director for Operations, Kuckuck oversaw the implementation of a Labwide cost-cutting and streamlining effort, reducing the overhead budget by almost 30 percent, and freeing up more than \$50 million annually for scientific programs. Simultaneous with this, he managed the Laboratory's performance in operations to continually higher levels as measured by the DOE-UC contract's Appendix F metrics.



NEWSLINE
UC-LLNL
PO Box 808, L-797
LIVERMORE, CA 94551-0808

